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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,437

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Naoki Yamaguchi

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EXAMINER

CERNOCH, STEVEN MICHAEL

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,437	Applicant(s) YAMAGUCHI ET AL.	
	Examiner STEVEN CERNOCH	Art Unit 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 5-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Terminal Disclaimer

The terminal disclaimers filed on 6/30/2009 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted to Application numbers 10/588779, 10/588,729 and 10/588,758 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "more or less" in claim 1 is a relative term which renders the claim indefinite. The phrase "more or less" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The phrase more or less a common electric potential is rendered indefinite. This claim will be rejected as best understood.

Re claims 1 and 18, it is claimed that the field electrode is to "surround the reservoir" yet later in the claim the limitation "said reservoir being devoid of the field electrode" is present. This is generally confusing and therefore this claim will be rejected as best understood.

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Re claim 18, the phrase wherein said field electrode is in the form of a plate shaped to surround the reservoir is generally confusing as if the electrode is formed to surround something, it can no longer be a plate. This claim will be rejected as best understood.

The term "generally" in claim 20 is a relative term which renders the claim indefinite. The term "generally" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The phrase generally flat disc is made indefinite. This claim will be rejected as best understood.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 5-9, 12-14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeffries et al. (US Pat No 5,221,050) in view of Coffee et al. (US Pat No 6,595,208 B1).

Re claims 1, 8, 17 and 18, as best understood, Jeffries et al. shows an electrostatic device (Fig. 7) configured and disposed to electrostatically charge and dispense a liquid composition from a supply to a point of dispense, wherein the device comprises: an actuator (column 10, line 8); a high voltage generator (column 7, lines 5-13) to provide a high voltage; a power source (Fig. 7, 96) to activate said actuator and said high voltage generator; a reservoir (column 5, line 48) to contain the supply of said liquid composition; and a nozzle (column 6, line 57) to dispense the liquid composition, said nozzle being disposed at the point of dispense; and wherein the reservoir is configured to provide a removable cartridge (Fig. 5, 58), said reservoir being deformable according to inner pressure (column 5, line 48), and wherein said device includes a housing (Fig. 7, 80) carrying said actuator, said high voltage generator, and said power source, said housing being formed with a concavity (40) for detachably receiving said

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reservoir, and wherein said reservoir (Fig. 7, 30) is coupled to said dispensing unit (38) and is cooperative therewith to define said cartridge.

Jeffries et al. does not show a dispensing unit comprising: a suction pump in immediate upstream relation with the reservoir for supplying the liquid composition from the reservoir, said pump being mechanically connected to said actuator to be driven thereby; an emitter electrode to electrostatically charge the liquid composition, the emitter electrode being electrically connected to said high voltage generator; wherein the device further comprises a field electrode being connected to the high voltage generator for providing the entire liquid composition with more or less a common electric potential, wherein said field electrode is in the form of a plate shaped to surround the reservoir; said housing comprising a positioning means with which said cartridge detachably engages for resting said reservoir in said concavity, wherein when said cartridge is engaged with said housing, the actuator detachably engaged with a mechanism to activate said supplying means, and a voltage terminal is detachably in contact with said emitter electrode to apply said high voltage to said emitter electrode.

However Coffee et al. teaches a dispensing unit comprising: a suction pump in immediate upstream relation with the reservoir for supplying the liquid composition from the reservoir (column 2, lines 55-58 and lines 66-67 to column 3, lines 1-2), said pump being mechanically connected to said actuator to be driven thereby; an emitter electrode (abstract, lines 1-12) to electrostatically charge the liquid composition, the emitter electrode being electrically connected to said high voltage generator (Fig. 2, 21); wherein the device further comprises a field electrode being connected to the high

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voltage generator (21) for providing the entire liquid composition with more or less a common electric potential (abstract, lines 5-12), wherein said field electrode is in the form of a plate shaped to surround the reservoir (Fig. 2, 60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to show said housing comprising a positioning means with which said cartridge detachably engages for resting said reservoir in said concavity, wherein when said cartridge is engaged with said housing, the actuator detachably engaged with a mechanism to activate said supplying means, and a voltage terminal is detachably in contact with said emitter electrode to apply said high voltage to said emitter electrode, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the motivation to modify the sprayer of Jeffries et al. with the pump and electrodes of Coffee et al. to provide a steady flow of fluid (column 2, lines 57-58) and to produce a charged comminuted material (abstract, lines 2-3).

Re claim 3, Jeffries et al. shows said housing incorporates a motor (102) which drives said actuator for operating said supplying means; said housing further incorporating therein a frame (91) which mounts said motor as well as said high voltage generator, said frame dividing the interior space of said housing into a front compartment (84) and a rear compartment (40), said front compartment accommodating said motor and said high voltage generator, and said rear compartment defining said concavity for receiving said reservoir and wherein said housing includes a

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front shell (Fig. 80) and a rear shell (86), in addition to said frame, said frame carrying said motor, said transformer, and a battery energizing said motor, said front shell being fitted over said frame to define there between said front compartment (91), said rear shell being fitted on said frame to define there between said rear compartment (40), said front shell being formed with a battery opening through which said battery is placed on said frame, said inner cover (114) shielding said battery opening when attached to said housing.

Re claim 5, Jeffries et al. shows wherein said positioning means is a mount (Fig. 11, 212) formed at the upper end of said housing on which said dispensing unit rests.

Re claim 6, Jeffries et al. shows wherein said voltage terminal (Fig. 11, 252) is located below an opening which is formed in the mount to permit the lower end of said emitter electrode to project through the opening for contact with said voltage terminal when said dispensing unit rests on said mount.

Re claim 7, Jeffries et al. shows wherein said reservoir is deformable and made of a dielectric material (column 2, lines 3-5).

Re claim 9, Jeffries et al. shows said housing incorporates a motor (102) which drives said actuator for operating said supplying means; said housing further incorporating therein a frame (91) which mounts said motor as well as said high voltage generator, said frame dividing the interior space of said housing into a front compartment (84) and a rear compartment (40), said front compartment accommodating said motor and said high voltage generator, and said rear compartment defining said concavity for receiving said reservoir.

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Re claim 12, Jeffries et al. shows wherein an inner cover (column 8, line 14) is provided to be detachably placed over a top portion of said housing, said inner cover having an opening through which said nozzle (Fig. 7, 66) extends and defining around said opening a retainer (88) which is placed against a portion of said dispensing unit to hold it in position on said mount.

Re claim 13, Jeffries et al. shows wherein said housing is provided with a positioning means (Fig. 7, 40) for engagement with said inner cover to retain it on the housing.

Re claim 14, Jeffries et al. shows said rear compartment defining said concavity for receiving said reservoir and wherein said housing includes a front shell (Fig. 80) and a rear shell (86), in addition to said frame, said frame carrying said motor, said transformer, and a battery energizing said motor, said front shell being fitted over said frame to define there between said front compartment (91), said rear shell being fitted on said frame to define there between said rear compartment (40), said front shell being formed with a battery opening through which said battery is placed on said frame, said inner cover (114) shielding said battery opening when attached to said housing.

Re claim 16, Jeffries et al. does not teach wherein said field electrode is extended outwardly from said concavity to follow at least part of the dispensing unit for covering a flow path of said liquid composition from said reservoir to said nozzle.

However, Coffee et al. does teach wherein said field electrode (Fig. 2, 60) is extended outwardly from said concavity to follow at least part of the dispensing unit for covering a flow path of said liquid composition from said reservoir to said nozzle.

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Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the motivation to modify the sprayer of Jeffries et al. with the pump and electrodes of Coffee et al. to produce a charged comminuted material (abstract, lines 2-3).

Re claim 20, as best understood, Jeffries et al. discloses the claimed invention except that the casing is a generally flat disc. It would have been an obvious matter of design choice to make the casing a generally flat disc, since applicant has not disclosed that a generally flat disc solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with a casing of any other shape.

Claims 10, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeffries et al. (US Pat No 5,221,050) in view of Coffee et al. (US Pat No 6,595,208 B1) as applied to claims 3 and 9 above, and further in view of Hartle et al. (US Pat No 5,725,161).

Re claim 10, Jeffries et al. shows wherein said housing has a vertical axis (column 11, lines 61-63) that defines an upper end and a lower end along said vertical axis, but does not teach said high voltage generator comprising a transformer which is arranged in stack with said motor along said vertical axis within said front compartment.

However, Hartle et al. does teach a transformer (column 1, lines 16-19).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the motivation to modify the sprayer of Jeffries et al. with the transformer of Hartle et al. for connection the to charging electrode (column 1, line 17).

Re claim 11, Jeffries et al. shows wherein said front compartment accommodates a battery (Fig. 7, 96) energizing the motor, said battery being arranged in a side-by-side relation with said motor in a direction perpendicular to said vertical axis and arranged in stack with said transformer along said vertical axis.

Re claim 15, Jeffries et al. does not show wherein said housing is provided with a button for releasing said inner cover therefrom and with a switch knob for actuating said pump, an outer cover being provided to fit over said inner cover for concealing there behind said dispensing unit, said button, and said switch knob.

However Hartle et al. does teach wherein said housing is provided with a button (Fig. 1, 174) for releasing said inner cover therefrom and with a switch knob (40) for actuating said pump, an outer cover (176) being provided to fit over said inner cover for concealing there behind said dispensing unit, said button, and said switch knob.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the motivation to modify the sprayer of Jeffries et al. with the button, cover and switch of Hartle et al. for control of actuation (column 3, lines 48-55).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeffries et al. (US Pat No 5,221,050) in view of Coffee et al. (US Pat No 6,595,208 B1) as applied to claims 3 and 9 above, and further in view of Sano et al. (US Pub No 2003/0197075 A1).

Re claim 19, Jeffries et al. does not show wherein said field electrode is composed of a first plate and a second plate both made of an electrically conductive

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metal and shaped to define there between said concavity surrounding the entire area of the reservoir.

However, Sano et al. does teach wherein said field electrode is composed of a first plate (Fig. 4, 33) and a second plate (34) both made of an electrically conductive metal and shaped to define there between said concavity surrounding the entire area of the reservoir (F).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the motivation to modify the sprayer of Jeffries et al. with the plate electrodes of Sano et al. for an electrolysis effect (paragraph 0031).

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEVEN CERNOCH whose telephone number is (571)270-3540. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571)272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. C./

Examiner, Art Unit 3752

/Dinh Q Nguyen/

Primary Examiner, Art Unit 3752